

ENVIRONMENTAL Fact Sheet



Frontier Hard Chrome, Vancouver, WA

U.S. Environmental Protection Agency Region 10

November 2003

Frontier Hard Chrome Cleanup Completed

The U.S. Environmental Protection Agency (EPA) has finished the cleanup of pollution at the Frontier Hard Chrome Site in Vancouver, Washington. Both soil and ground water were contaminated with hexavalent chromium at this former chrome-plating site.

EPA's summer-long cleanup of the site concluded in September as scheduled. EPA injected a reducing agent underground around the most concentrated contamination, called the "hot spot." The agent reacts with the hexavalent chromium, making it non-toxic. The reducing agent was injected into the ground as deep as 30 feet. Over 180,000 gallons of contaminated water were treated in this way.

The first injections formed an underground wall about 150 feet long, a sort of fence to keep contamination from spreading. Any hexavalent chromium that passes through this "fence" will be changed to non-toxic trivalent chromium.



A crane injects a chemical that makes the poisons harmless.



The Frontier Hard Chrome site after EPA cleanup was completed.

"This modern technology allows us to clean up this site in a very effective way. We'll be monitoring the results over the long term," says EPA's Sean Sheldrake. Not having to remove all the soil for the cleanup saved taxpayers a bundle.

EPA removed about 2,000 truckloads of contaminated soil from the site. In the process, old underground tanks were discovered and removed from the site. To confirm that the site was properly cleaned up, EPA took more than one hundred soil samples and twenty groundwater samples.

Site Background

The Frontier Hard Chrome (FHC) site is located in southwestern Washington, in the city of Vancouver. The site is about a half mile north of the Columbia River. Chrome-plating operations took place there between 1958 and 1982. FHC, which operated at the site from 1970 to 1982, discharged wastewaters with hexavalent chromium to an on-site dry well. Based on concerns that contaminated water could reach the Columbia River or drinking water wells, EPA added the site to the National Priorities List (NPL) in 1983.

The NPL is a roster of the nation's most contaminated hazardous waste sites. When first detected, the polluted groundwater extended about 1,600 feet southwest from the facility. Monitoring has shown that

this area of groundwater contamination has changed in size and shape over time. However, the "hot spot" under the site has shown consistently high concentrations of chromium.

In the 1980s, EPA evaluated ways to clean up contamination, but the Agency could not find a cost-effective remedy for soil at that time.

EPA removed some contaminated surface soil from the site in 1994, and continued monitoring and evaluating new cleanup technologies. In 2001, after seeking public comment, EPA selected a final cleanup plan based on new treatment technologies. Work is now completed.

For More Information:

For general information, contact Andrea Lindsay, Community Involvement Coordinator, at (206) 553-1896 or 1-800-424-4372.

For technical information, call Sean Sheldrake, Project Manager, at (206) 553-1220 or 1-800-424-4372.

Web Site: <http://yosemite.epa.gov/r10/cleanup.nsf/sites/fhc>



U.S. Environmental Protection Agency
Region 10 (ECO-081)
1200 Sixth Avenue
Seattle WA 98101

**FRONTIER HARD CHROME
VANCOUVER, WASHINGTON**

SUPERFUND SITE CLEANUP COMPLETED
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